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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,958	03/26/2004	Christopher P. Henderson	59698US002	9828
32692 7590 10/28/2009 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER				
PATEL, NIHIL B				
ART UNIT		PAPER NUMBER		
3772				
NOTIFICATION DATE		DELIVERY MODE		
10/28/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

**Application No.**

10/810,958

**Applicant(s)**

HENDERSON ET AL.

**Examiner**

NIHIR PATEL

**Art Unit**

3772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on RCE filed on October 8<sup>th</sup>, 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 8<sup>th</sup>, 2009 has been entered.

***Response to Arguments***

2. Applicant's arguments filed on July 2<sup>nd</sup>, 2009 have been fully considered but they are not persuasive. One of the points the applicant argues is that the Nelson reference does not teach a mask body that lacks a rigid insert. The applicant further states that the hard shell 12 of the Nelson reference defines the rigid insert. The examiner disagrees with the applicant's argument. The examiner would like to point out that the mask body and rigid insert are two different components. The applicant "claims a mask body that lacks a rigid insert that is non-elastomeric...", The mask body 12 of the Nelson reference lacks a rigid insert and is of a non-elastomeric material (see col. 2 lines 20-40).

Applicant further argues that there is no indication that Nelson's hard shell would be able to be deformed such that the first and second cheek portions of the mask can be moved towards each other about an axis when the mask is held stationary and a force is exerted on the nose and chin portions. The examiner disagrees with the applicant's argument. See figs. 6 and 7, inherently when the mask is used as shown in fig. 7, the mask body can move toward each other about an axis when the mask is held stationary and a force is exerted on the nose and chin portions.

Applicant further argues that Nelson does not indicate that its mask body is capable of exhibiting such deflections when 5 Newtons of force is applied. The examiner disagrees with the applicant's argument. As stated in the office action dated May 12<sup>th</sup>, 2009, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a numerical value of the deflection or a numerical value of the force required for the mask body deflection test, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F 2d 272, 205 USPQ 215 (CCPA 1980).

***Response to Amendment***

3. The examiner acknowledges the amendment to the specification filed on July 2nd, 2009. This amendment is entered into the file and the objection to the specification under 35 USC § 132(a) is rendered moot.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims **1, 3, 5, 8, 29 and 32** are rejected under 35 U.S.C. 102(b) as being anticipated by Neslon et al. (Us 4,960,121).

6. **As to claims 1 and 32**, Nelson teaches a half-face mask assembly that comprises a mask body **12 (see figures 1-3 and column 2 lines 20-30)** that lacks a rigid insert that is non-elastomeric (**see column 2 lines 35-40**), and that is adapted for fitting over a person's nose and

mouth, the mask body having a nose portion, a chin portion, first and second cheek portions, and an axis that extends from the nose portion to the chin portion (see figures 6 and 7), the mask body being constructed to deform such that the first and second cheek portion can move towards each other about the axis when the mask body is held stationary and a force is exerted on the nose and chin portion (see figures 6 and 7; inherently when the mask is used as shown in figure 7, the mask body will deform such that the first and second cheek portion can move towards each other), a harness 16 that assists in supporting the mask on a wearer's face (see figures 6 and 7) and one or more filter cartridges that are attached to the mask body (see col. 2 lines 40-55).

7. **As to claim 3**, Nelson teaches an apparatus wherein the mask includes first and second filter cartridges that are secured to the first and second cheek portions, respectively (see figure 1 and column 2 lines 50-60).
8. **As to claim 5**, Nelson teaches an apparatus wherein the first and second cheek portions are capable of deflecting inward during normal jaw movement of the wearer (see figures 6 and 7; inherently when the mask is used as shown in figure 7, the mask body will deform such that the first and second cheek portion can move towards each other).
9. **As to claim 8**, Nelson teaches an apparatus wherein the mask body further includes a soft deformable material as a face seal, which soft deformable material is secured to a perimeter of the mask body to improve fit of the mask body to a person's face (see column 3 lines 30-55).
10. **As to claim 29**, Nelson teaches an apparatus wherein the mask body is constructed from a thermoformed plastic (see column 2 lines 35-40).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims **4, 6 7, and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (US 4,960,121) in view of Brostrom et al. (US 6,062,221).

14. **As to claims 4, 6 and 7**, Nelson substantially discloses the invention as claimed, see rejection of claim 1 above, but does not disclose a harness that includes a carriage and at least one strap, the carriage covering the exhalation valve and being secured to the mask body at the central portion. Brostrom discloses a drop-down facemask assembly that does provide a harness that includes a carriage **26 (see column 3 lines 50-60)** and at least one strap **44 and 46**, the carriage covering the exhalation valve (**see column 3 lines 50-60**) and being secured to the mask body at the central portion (**see figure 2**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nelson's invention by providing a harness that includes a carriage and at least one strap, the carriage covering the

exhalation valve and being secured to the mask body at the central portion as taught by Brostrom in order to provide an exhaust valve closer to the breathing passage of the user and so that the mask will not disengage from the carriage, nor from the user.

15. **As to claim 18**, Nelson and Brostrom substantially discloses the claimed invention, see rejection of claims 1 and 6 above, but does not disclose a range of force that is used when the mask is fitted on a wearer's face. It would have been obvious to one having ordinary skill in the art at the time the invention was made to disclose a range of force that is used when the mask is fitted on a wearer's face, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

16. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (US 4,960,121) in view of Brostrom et al. (US 6,062,221) and further in view of Springett et al. (US 5,617,849).

17. **As to claim 9**, Nelson and Brostrom substantially disclose the invention as claimed, see rejection of claim 1 above, but does not disclose a mask body that has a foam material secured to the interior of the mask body at the nose portion. Springett discloses an apparatus that does provide a mask body that has a foam material secured to the interior of the mask body at the nose portion (see column 5 lines 20-30). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nelson and Brostrom inventions by providing a mask body that has a foam material secured to the interior of the mask body at the nose portion as taught by Springett in order to prevent contaminants from escaping to ambient.

18. Claim **10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (US 4,960,121) in view of McCreadie et al. (US 4,579,113).

19. **As to claim 10**, Nelson substantially discloses the invention as claimed, see rejection of claim 1 above, but does not disclose a mask body having a mechanism that allows for attachment of a powered air supply source. McCreadie discloses an apparatus that does provide a mask body having a mechanism **62** that allows for attachment of a powered air supply source (see **figure 5 and column 4 lines 1-10**). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nelson's invention by providing a mask body having a mechanism that allows for attachment of a powered air supply source as taught by McCreadie in order to supply clean air in a contaminated environment.

20. Claims **11-17 and 19-28, 30, 31, 33 and -34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (US 4,960,121).

21. **As to claims 11-13**, Nelson substantially discloses the claimed invention, see rejection of claim 1 above, but does not disclose a numerical value of the elastic limit the mask body can elongate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a numerical value of the elastic limit the mask body can elongate, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F 2d 272, 205 USPQ 215 (CCPA 1980).

22. **As to claims 14-17**, Nelson substantially discloses the claimed invention, see rejection of claim 1 above, but does not disclose a numerical value for flexible modulus of the mask body. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a numerical value for flexible modulus of the mask body, since it has been held



that discovering an optimum value of a result effective variable involves only routine skill in the art. ***In re Boesch*, 617 F 2d 272, 205 USPQ 215 (CCPA 1980).**

23. **As to claims 19 and 20**, Nelson substantially discloses the claimed invention, see rejection of claim 1 above, but does not disclose a numerical value of the deflection or a numerical value of the force required for the mask body deflection test. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a numerical value of the deflection or a numerical value of the force required for the mask body deflection test, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. ***In re Boesch*, 617 F 2d 272, 205 USPQ 215 (CCPA 1980).**

24. **As to claims 21-24**, Nelson substantially discloses the claimed invention, see rejection of claim 1 above, but does not disclose a numerical value of the weight of the mask body in naked form. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a numerical value of the weight of the mask body in naked form, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. ***In re Boesch*, 617 F 2d 272, 205 USPQ 215 (CCPA 1980).**

25. **As to claims 25-28**, Nelson substantially discloses the claimed invention, see rejection of claim 1 above, but does not disclose a numerical value of the thickness of the mask body. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a numerical value of the thickness of the mask body, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. ***In re Boesch*, 617 F 2d 272, 205 USPQ 215 (CCPA 1980).**

26. **As to claims 31, 33 and 34**, Nelson substantially discloses the claimed invention, see rejection of claim 1 above, but does not disclose a numerical value of the weight, thickness and flexural modulus of the mask body. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a numerical value of the weight, thickness and flexural modulus of the mask body, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F 2d 272, 205 USPQ 215 (CCPA 1980).

27. **As to claim 30**, Nelson substantially discloses the claimed invention, see rejection of claim 1 above, but does not disclose a thermoformed plastic that comprises polypropylene. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a thermoformed plastic that comprises polypropylene, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIHIR PATEL whose telephone number is (571)272-4803. The examiner can normally be reached on 7:30 to 4:30 every other Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on (571) 272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nihir Patel/  
Examiner, Art Unit 3772

/Justine R Yu/  
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